MSL-2A

High Power Loudspeaker

Features

- Efficient high power
- Arrayable
- Wide horizontal coverage
- Flat frequency response
- Rugged and reliable

Applications

- Touring reinforcement
- Live music clubs
- Theatre PA systems
- Side fill in concert reinforcement
- High powered announcing
- Music playback in discos

The MSL-2A is a high-powered, wide-coverage loudspeaker for professional sound reinforcement applications. Specifically designed for touring reinforcement, the accurate, rugged MSL-2A is a biamplified system consisting of a proprietary 15-inch low-frequency driver in a vented enclosure, and a 70-degree high-frequency horn with 2-inch (throat diameter) driver.

The MSL-2A's drivers provide exceptional efficiency and power handling, with low distortion for maximum clarity.

The sturdy, multi-ply hardwood enclosure with textured finish is designed to withstand road abuse. The MSL-2A comes with handles and, optionally, aircraft-style rigging pan fittings or nut plates.

The MSL-2A requires a high-quality professional stereo power amplifier capable of delivering up to 600 watts per channel continuously into 8 ohms, with a signal voltage gain of 10dB (minimum) to 32dB (maximum).

Meyer Sound

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MSL-2A Specifications

Acoustical – MSL-2A/S-1 System	
Frequency Response[1]	40 Hz to 18 kHz ±4 dB
Maximum SPL[2]	
Continuous	130 dB
Peak	139 dB
Maximum Peak (Music Signal)	144 dB
HF Coverage, -6dB points	70° horizontal x 60° vertical
Acoustical Crossover Frequency	900 Hz
MSL-2A Loudspeaker	
Transducers	
Low Frequency	MS-15 15-inch cone driver, 8 ohms
High Frequency	MS-2001A 2-inch throat compression driver, 8 ohms
High-Frequency Horn	70 degree modified radial
HF Network	DC blocking capacitor
Enclosure	2.3 cu. ft. vented, multi-ply Finnish birch plywood
Finish	Black textured
Protective Grill	Hex perforated metal, powder coated, charcoal-grey foam covering
Connector	EP-4 male (EP-5 male, Europe only)
Rigging (optional)	Aircraft pan fittings, ⅜"-16 or M10 x 1.5 nut plates
Physical Dimensions	21¼" W x 24¼" H x 18¼" D
Weight	82 lbs. (37 kg)

S-1 Control Electronics Unit	
Input Type[3]	Active balanced ISO™ input, 10k ohms, 5k ohms per leg
Output Type	Active push-pull, will drive 600 ohms
Maximum Input/Output Level	
Balanced	+26 dBu
Unbalanced	+20 dBu
Hum and Noise[4]	<-90 dBV
Dynamic Range	108 dB
Sense Inputs	100k ohms true differential
Low-Frequency Delay Type	Active all-pass
Driver Protection Circuitry	
Low Frequency	RMS limiter and excursion limiter
High Frequency	RMS limiter and excursion limiter
	VHF Peak limiter
Indicators	
Sense/Gain Detect, Hi and Lo	Red /Green LEDs
Limit, Hi, Lo, and VHF	Red LEDs
Safe	Green LED
Power Supply	Green LED
Controls	
Front Panel	Input attenuator, AC power switch
Preset Panel	Lo Cut switch, Safe switch, VHF switch, VHF control
Connectors	
Balanced Inputs/Outputs	3-pin XLR (A-3)
Sense Inputs	Banana jacks
Power	90-125/180-250V AC, 50/60 Hz (rear-panel switchable)
Physical Dimensions	19" W x 1¾" H x 7¾" D standard rack mount
Weight	8 lbs. (3.6 kg)

Note 1:

Measured 1 meter on-axis to high horn, half-space con–ditions, pink noise input, in third-octave bands.

Note 2:

Loudspeaker driven with "A" weighted noise (peak-to-RMS ratio ≈ 12 dB), with amplifier rated at 600 W/channel at 8 ohms. The MSL-2A will ac-commodate amplifiers capable of output levels up to ±140 vpk.

Note 3:

ISO™ input: Pins 1, 2 and 3 are transformer isolated, shell is connected to chassis/AC mains ground.

Note 4:

"A"- weighted, unbalanced.

The S-1 Control Electronics Unit

The MSL-2A operates as a system with the S-1 Control Electronics Unit (one per channel). A single-channel device operating at line level, the S-1 is the final component in the signal chain before the amplifier.

Optimized for the MSL-2A loudspeaker and pre-aligned at the factory, the S-1 contains frequency and phase response alignment circuitry, and Meyer Sound's exclusive SpeakerSense™ driver protection circuitry, incorporating both peak and RMS signal limiting as well as excursion protection.

SpeakerSense driver protection circuitry protects the MSL-2A loudspeaker components from damage due to overheating or excessive excursion under high power conditions. This unique circuit continuously monitors the power applied to the MSL-2A drivers, and individually limits the high-frequency and low-frequency outputs when the safe operating limits of the drivers are exceeded. Until the onset of overload, the SpeakerSense circuitry has no effect on the signal.

The S-1 SpeakerSense circuit incorporates Meyer Sound's new MultiSense™ function, which allows the use of multiple power amplifiers having different channel gains and/or power ratings. The S-1 accommodates two stereo power amplifiers, and provides separate Sense inputs for each. Its MultiSense circuit, which implements an analog OR condition, automatically tracks the power amplifier with the greatest output voltage swing to control the system protection limiters.

To enhance the effectiveness of the MSL-2A in stage monitoring applications, the S-1 incorporates sliding filters which band-limit the system response under full-power conditions. This has the effect of discriminating for vocal information in the signal to increase clarity.

Also provided is a switch-selectable Safeguard function, which widens the safety margin of the system and is intended to be used when extended periods of overload are anticipated. The Safeguard switch and other setup controls are located behind a cover plate on the S-1 front panel, providing a means of securing the system installer's presets.

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Architectural and Engineering Specifications MSL-2A/S-1

The compact speaker system shall be of the two-way type, with a 15" low-frequency loudspeaker front-mounted in a ducted bass-reflex hardwood plywood enclosure, a compression driver mounted on a high-frequency horn which has a 2.0" throat and 4.0" diameter diaphragm with gap field strength of 19k Gauss, and a separate Control Electronics Unit.

The Control Electronics Unit shall contain a power supply capable of operating from a 90-125/180-250V AC, 50/60 Hz line; electronic crossover circuitry; electronic delay for the phase alignment of the low-frequency speaker; low- and high-frequency protection filters which automatically activate under high power conditions; RMS, peak and excursion limiters to protect the speaker components; equalization circuitry; active balanced input; and indicator LEDs for power and limiters. Total harmonic distortion shall be less than 0.1%. "A" weighted noise level shall be at least 110 dB below maximum rated output of +26 dBu.

The speaker system, its companion Control Electronics Unit, and a power amplifier rated at up to 600 watts/channel into 8ohms shall meet the following performance criteria: frequency response, 40 Hz to 18 kHz ±4 dB measured with $^{1}/_{3}{}^{rd}$ octave pink noise at 1meter on axis; output of 130 dB SPL one meter on axis with peaks in excess of 140dB SPL when driven with "A"-weighted noise. High frequency distribution, 70 degrees horizontal by 60degrees vertical.

Speaker enclosure dimensions are 21 ¼" W x 24 ¼" H x 18 ¼" D, weight 82 lbs (37 kg).

Control Electronics Unit dimensions are 19" W x 1 ¾" H x 7 ¾" D, weight 8 lb (3.6kg).

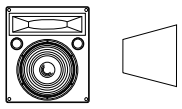
The speaker system shall be the Meyer Sound MSL-2A.

The Control Electronics Unit shall be the Meyer Sound S-1.

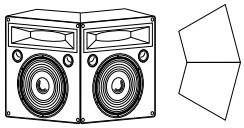
Meyer Sound Laboratories has devoted itself to designing, manufacturing, and refining components that deliver superb sonic reproduction. Every part of every component is designed and built to exacting specifications and undergoes rigorous, comprehensive testing in the laboratories. Research remains an integral, driving force behind all production. Meyer strives for sound quality that is predictable and neutral over an extended lifetime and across an extended range.

Array Examples

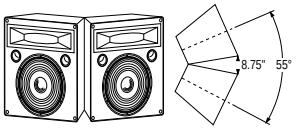
Coverage Angle (-6 dB)	
Vertical	60 degrees
Horizontal	70 degrees
Maximum SPL @ 1meter	
Continuous	130 dB
Peak	139 dB
Total Amplifier Power	1200 W



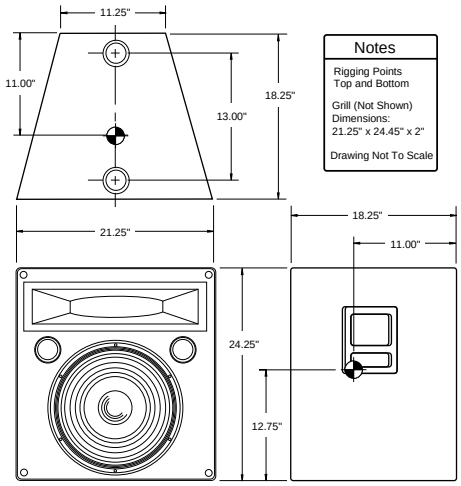
Narrow Horizontal Coverage Array	
Coverage Angle (-6 dB)	
Vertical	60 degrees
Horizontal	95 degrees
Maximum SPL @ 1meter	
Continuous	136 dB
Peak	145 dB
Total Amplifier Power	2400 W



Optimal Horizontal Coverage Array	
Coverage Angle (- 6 dB)	
Vertical	60 degrees
Horizontal	120 degrees
Maximum SPL @ 1meter	
Continuous	134 dB
Peak	143 dB
Total Amplifier Power	2400 W



Physical Dimensions



Sound engineering for the art and science of sound.

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